

- 23 -

### CLAIMS

1 - Process for the manufacture of a composite material (M) comprising a stage (E) according to which a dispersion (D) comprising :

(a) at least one polymer,

5 (b) at least one lamellar compound, and

(c) at least one dispersing liquid,

is dried by atomization.

2 - Process according to Claim 1, characterized in that the polymer is a halogenated polymer.

10 3 - Process according to Claim 2, characterized in that the halogenated polymer is obtained by a polymerization process chosen from the aqueous micro-suspension polymerization process and the aqueous emulsion polymerization process.

15 4 - Process according to any one of Claims 1 to 3, characterized in that a lamellar compound is chosen from smectites and Laponite® clays.

5 - Process according to any one of Claims 1 to 4, characterized in that the dispersion (D) additionally comprises (d) at least one surface-active agent.

20 6 - Process according to any one of Claims 1 to 5, characterized in that it comprises a stage (E') of preparation of the dispersion (D), prior to stage (E), according to which the dispersion (D) is prepared by blending a dispersion (A) comprising (a), a portion of (c) and, if appropriate, (d) with a dispersion (B) comprising (b) and the balance of (c).

7 - Process according to any one of Claims 1 to 6, characterized in that the dispersion (D) additionally comprises (e) at least one peptizing agent.

25 8 - Process according to any one of Claims 1 to 7, characterized in that it comprises at least one stage (E''), subsequent to stage (E), according to which the composite material is treated so as to adjust the morphology thereof.

- 24 -

9 - Composite material (M') comprising :

(a') at least one polymer,

(b') at least one lamellar compound, and

5 (d') at least 0.02 % by weight of at least one surface-active agent with respect to the weight of (a') in the dry state; composed of particles having a weight-average diameter D50 of less than or equal to 200  $\mu\text{m}$ .

10 - Composite material according to Claim 9 or prepared by the process according to any one of Claims 1 to 8, composed of particles with a weight-average diameter D50 of less than or equal to 100  $\mu\text{m}$ .

10 11 - Composite material according to either one of Claims 9 and 10 or prepared by the process according to any one of Claims 1 to 8, composed of particles with a weight-average diameter D50 of greater than or equal to 10  $\mu\text{m}$ .

15 12 - Composite material according to any one of Claims 9 to 11 or prepared by the process according to any one of Claims 1 to 8, composed of particles having an average aspect ratio of less than or equal to 4.

13 - Method for processing a composite material according to any one of Claims 9 to 12 or prepared by the process according to any one of Claims 1 to 8, which comprises a stage (E''') according to which a plastisol is prepared.

20 14 - Method for processing a composite material according to any one of Claims 9 to 12 or prepared by the process according to any one of Claims 1 to 8, which comprises a stage (E''') according to which the polymer of the material is brought to a temperature greater than or equal to its melting point or gelling temperature.